## (19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 30 June 2005 (30.06.2005)

PCT

## (10) International Publication Number WO 2005/059042 A3

(51) International Patent Classification7: 167/00, 167/08, B01F 17/00

C09D 5/02,

(21) International Application Number:

PCT/GB2004/005240

(22) International Filing Date:

15 December 2004 (15.12.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

0329178.8

17 December 2003 (17.12.2003)

- (71) Applicants (for all designated States except US): IM-PERIAL CHEMICAL INDUSTRIES PLC [GB/GB]; 20 Manchester Square, London W1U 3AN (GB). UNICHEMA CHEMIE BV [NL/NL]; Buurtje 1, NL-2802 AA Gouda (NL). ICI AMERICAS INC [US/US]; 10 Finderne Avenue, Bridgewater NJ 08807 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): MANAMEE. William, Harry [US/US]; 704 Elmtree Lane, Claymont, DE 19703 (US). BLEASE, Trevor, Graham [GB/GB]; 5 Abbey Close, Stockton on Tees, Cleveland TS19 7SP (GB). GRADE, Johny, Denis [BE/BE]; Begijnenblokstraat 19, B-3320 Meldert (BE). BEVINAKATTI, Hanamanthsa, Shankarsa [IN/GB]; 34 Apsley Way, Ingleby Barwick, Cleveland TS17 5GD (GB).

- (74) Agents: RALPH, Julie, Diane et al.; Uniqema Intellectual Property Dept., Wilton Centre, Wilton, Redcar, Cleveland TS10 4RF (GB).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

## Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of
- (88) Date of publication of the international search report: 3 November 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: SURFACTANT

(57) Abstract: A compound of the formula R<sup>1</sup>. [(AO)<sub>n</sub>.-R<sup>2</sup>]<sub>m</sub> (I) where: R<sup>1</sup> is the residue of a group having at least m active hydrogen atoms; AO is an alkylene oxide residue; each n is independently from 1 to 100; m is at least 2; and each R2 is independently H, a C<sub>1</sub> to C<sub>21</sub> hydrocarbyl, or an acyl group -OC.R<sup>3</sup>, where R<sup>3</sup> is a C<sub>1</sub> to C<sub>21</sub> hydrocarbyl group, wherein on average greater than one of the R<sup>2</sup> groups is or comprises a C<sub>4</sub> to C<sub>21</sub> hydrocarbyl group comprising at least two ethylenic double bonds. The compounds are particularly suitable for use in preparing aqueous emulsions or dispersions of resins and polymers, especially alkyd resins.

